

REMARKS

Claims 1-31 are all the claims pending in the application.

I. Claim Objections

The Examiner has objected to claims 1-31 for the reasons set forth in items 2 and 3 on page 2 of the Office Action. Applicants have amended claims 1, 11, 17 and 24 in a manner to overcome the Examiner's objections. Accordingly, Applicants respectfully request that the objections to the claims be reconsidered and withdrawn.

II. Claim Rejections under 35 U.S.C. § 103(a)

A. The Examiner has rejected claims 1, 2, 11 and 30 under 35 U.S.C. § 103(a) as being unpatentable over Wierenga (U.S. 6,552,985) in view of Applicants' admitted prior art (i.e., Fig. 8 of the present application).

Claim 1 recites the feature of an information recording medium having a recording member with a thickness that is larger than a wavelength of a light beam emitted by a light source. The Examiner recognizes that Wierenga fails to disclose or suggest such a feature. Nonetheless, the Examiner applies the admitted prior art (Fig. 8) and asserts that one of ordinary skill in the art would have been motivated to combine Wierenga with the admitted prior art to arrive at the claimed invention.

In particular, the Examiner alleges that one of ordinary skill in the art would have been motivated to modify the recording member of Wierenga based on the teaching of the admitted prior art such that the thickness of the recording member of Wierenga is larger than a wavelength of a light beam emitted by a light source. Applicants respectfully disagree.

Wierenga discloses an information carrier 1 having a plurality of optical recording members 41- 43, wherein each of the recording members is separated from one another by a space layer (see Fig. 1). In Wierenga, the sequence in which the recording members 41-43 are to be inscribed is determined by the effective transmission properties of the recording members 41-42 (see col. 5, lines 18-23 and 29-34).

For example, if the effective transmission properties of the recording members 41-42 after information has been written have decreased with respect to the effective transmission properties of the recording members before information is written, the sequence of inscribing data involves first writing data to the recording member 43, which is farthest from a light source 3, and then consecutively writing data to the remaining recording members, ending with the recording member 42 which is closest to the light source 3 (see col. 5, lines 18-29).

Conversely, if the effective transmission properties of the recording members 41-42 after information has been written have increased with respect to the effective transmission properties of the recording members before information is written, the sequence of inscribing data involves first writing data to the recording member 42, which is closest to the light source 3, and then consecutively writing data to the remaining recording members, ending with the recording member 43 which is farthest from the light source 3 (see col. 5, lines 29-39).

Accordingly, in Wierenga, the order in which the recording members 41-43 are inscribed is dependent upon the effective transmission properties of recording members 41-42 (see col. 5, lines 18-20 and lines 29-32). Thus, it is clear that Wierenga requires the use of multiple recording members in order to properly determine the order in which the recording members are to be inscribed.

The Office Action, however, appears to suggest that it would have been obvious to replace the multiple recording members 41-43 of Wierenga with a single recording member having a thickness that is larger than a wavelength of a light beam emitted by a light source (see Office Action at page 3). Applicants respectfully disagree.

In particular, Applicants submit that replacing the multiple recording members 41-43 of Wierenga with a single recording member would impair or render inoperable Wierenga's method of recording data. For example, if the recording members 41-43 of Wierenga were replaced by a single recording member, it would not be possible to determine the effective transmission properties of the recording members 41-42 which controls the sequence in which data is inscribed to recording members 41-43.

Further, Applicants note that the Examiner alleges that the reason for modifying Wierenga to include a recording member with a thickness as disclosed by the admitted prior art is to increase recording capacity. Applicants respectfully submit, however, that Wierenga provides for increased recording capacity by providing multiple recording members, and therefore, Applicants submit that there would simply be no need to provide Wierenga with a recording member as disclosed by the admitted prior art.

In view of the foregoing, Applicants respectfully submit that claim 1 is patentable over the cited prior art, an indication of which is respectfully requested. Claims 2, 11 and 30 depend from claim 1 and are therefore considered patentable at least by virtue of their dependency.

In addition, claim 11 has been amended to recite that the information recording medium comprises one and only one recording member. Applicants respectfully submit that Wierenga fails to disclose or suggest such a feature.

The Examiner alleges that Wierenga discloses an information recording medium having a single recording member 42 (see Office Action at page 4). However, as plainly shown in Fig. 1 of Wierenga, the recording medium 1 does not include "one and only one recording member", as recited in claim 11, but instead, includes multiple recording members 41-43.

Thus, while Wierenga discloses a recording medium 1 having a recording member 42, Wierenga does not teach a recording medium that comprises one and only one recording member, as recited in claim 11.

In view of the foregoing, Applicants respectfully submit that claim 11 is patentable over the cited prior art, an indication of which is respectfully requested.

Regarding claim 30, Applicants note that this claim recites that the recording member is a single recording layer. The Examiner alleges that recording member 42 of Wierenga corresponds to the recording member which is a single recording layer. Applicants note, however, that this position is inconsistent with the position taken by the Examiner with respect to base claim 1. In particular, Applicants note that in the rejection of claim 1, the Examiner asserts that the recording member corresponds to elements 41-43, not element 42 (see Office Action at page 3).

In view of the foregoing, Applicants submit that claim 30 is patentable over the cited prior art, an indication of which is respectfully requested.

B. The Examiner has rejected claims 9 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Wierenga in view of Applicants' admitted prior art and further in view of Ito et al. (U.S. 5,734,632).

Claims 9 and 10 depend from claim 1. Applicants submit that Ito fails to cure the

deficiency of Wierenga and the admitted prior art as discussed above regarding claim 1.

Accordingly Applicants submit that claims 9 and 10 are patentable at least by virtue of their dependency.

C. The Examiner has rejected claims 17, 24, and 31 under 35 U.S.C. § 103(a) as being unpatentable over Wierenga in view of Applicants' admitted prior art and further in view of Ito et al.

Regarding claim 17, Applicants submit that this claim is patentable for at least similar reasons as discussed above regarding claim 1. In particular, Applicants submit that Wierenga and the admitted prior art fail to render obvious the feature of an information recording medium having a recording member with a thickness that is larger than a wavelength of a light beam emitted by a light source. Further, Applicants submit that Ito also fails to render obvious such a feature.

In addition, Applicants note that claim 17 recites that an amount of change in refractive index is less than or equal to 0.02 and that the number of rows of information bits which have already been recorded in the direction of the optical axis is not more than 4.

Regarding the feature of the amount of change in refractive index being less than or equal to 0.02, the Examiner alleges that Ito discloses such a feature. Ito discloses a recording medium with a refractive index that changes depending upon the presence of absence of a data pit 10 (see col. 9, lines 15-17). In particular, Ito discloses that the amount of change in the refractive index is about 50%. Applicants respectfully submit, however, that Ito fails to disclose that the amount of change in refractive index is less than or equal to 0.02.

Further, Applicants note that the combination of conditions noted above regarding an amount of change in refractive index being less than or equal to 0.02 and the number of rows of information bits which have already been recorded in the direction of the optical axis being not more than 4 enables a defocus in recording to be within an allowable range (see page 18, lines 11-21).

Accordingly, Applicants submit that providing a recording medium with this combination of conditions would not have been a simple matter of design choice. Indeed, as noted by the Federal Circuit, a claimed invention should not be rejected as a mere "design choice" when the Applicant presents evidence of the technical advantages of the Applicant's structure. *See In re Chu*, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995).

In view of the foregoing, Applicants submit that claim 17 is patentable over the cited prior art, an indication of which is respectfully requested. Claims 24 and 31 depend from claim 17 and are therefore considered patentable at least by virtue of its dependency.

In addition, regarding claim 24, Applicants note that this claim has been amended to recite that the information recording medium comprises one and only one recording member. Accordingly, for at similar reasons as discussed above regarding claim 11, Applicants submit that claim 24 is patentable over the cited prior art, an indication of which is respectfully requested.

D. The Examiner has rejected claims 3 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Wierenga in view of Applicants' admitted prior art and further in view of Ito et al. and Kasono (U.S. 6,292,442).

Claim 3 depends from claim 1, and claim 18 depends from claim 17. Applicants submit

that Kasono fails to cure the deficiencies of Wierenga, the admitted prior art and Ito as discussed above regarding claims 1 and 17. Accordingly Applicants submit that claims 3 and 18 are patentable at least by virtue of their dependency.

E. The Examiner has rejected claims 4, 5, 6, 16, 19, 20, 21 and 29 under 35 U.S.C. § 103(a) as being unpatentable over Wierenga in view of Applicants' admitted prior art and further in view of Ito et al. and Hino et al. (U.S. 6,178,151).

Claims 4-6 and 16 depend from claim 1, and claims 19-21 and 29 depend from claim 17. Applicants submit that Hino fails to cure the deficiencies of Wierenga, the admitted prior art and Ito as discussed above regarding claims 1 and 17. Accordingly Applicants submit that claims 4-6, 16, 19-21 and 29 are patentable at least by virtue of their dependency.

F. The Examiner has rejected claims 7 and 22 under 35 U.S.C. § 103(a) as being unpatentable over Wierenga in view of Applicants' admitted prior art and further in view of Ito et al. and Suh (U.S. 4,793,696).

Claim 7 depends from claim 1, and claim 22 depends from claim 17. Applicants submit that Suh fails to cure the deficiencies of Wierenga, the admitted prior art and Ito as discussed above regarding claims 1 and 17. Accordingly Applicants submit that claims 7 and 22 are patentable at least by virtue of their dependency.

G. The Examiner has rejected claims 8 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Wierenga in view of Applicants' admitted prior art and further in view of Ito et

al. and McLeod et al. (U.S. 6,020,985).

Claim 8 depends from claim 1, and claim 23 depends from claim 17. Applicants submit that McLeod fails to cure the deficiencies of Wierenga, the admitted prior art and Ito as discussed above regarding claims 1 and 17. Accordingly Applicants submit that claims 8 and 23 are patentable at least by virtue of their dependency.

H. The Examiner has rejected claims 12, 13, 25, and 26 under 35 U.S.C. § 103(a) as being unpatentable over Wierenga in view of Applicants' admitted prior art and further in view of Ito et al. and Kikukawa et al. (U.S. 6,169,722).

Claims 12 and 13 depend from claim 1, and claims 25 and 26 depend from claim 17. Applicants submit that Kikukawa fails to cure the deficiencies of Wierenga, the admitted prior art and Ito, as discussed above regarding claims 1 and 17. Accordingly Applicants submit that claims 12, 13, 25 and 26 are patentable at least by virtue of their dependency.

I. The Examiner has rejected claims 14 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Wierenga in view of Applicants' admitted prior art and further in view of Ito et al. and Durham (U.S. 5,532,998).

Claim 14 depends from claim 1, and claim 27 depends from claim 17. Applicants submit that Durham fails to cure the deficiencies of Wierenga, the admitted prior art and Ito, as discussed above regarding claims 1 and 17. Accordingly Applicants submit that claims 14 and 27 are patentable at least by virtue of their dependency.

J. The Examiner has rejected claims 15 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Wierenga in view of Applicants' admitted prior art and further in view of Ito et al. and Ishii et al. (U.S. 4,125,860).

Claim 15 depends from claim 1, and claim 28 depends from claim 17. Applicants submit that Ishii fails to cure the deficiencies of Wierenga, the admitted prior art and Ito, as discussed above regarding claims 1 and 17.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Teruhiro SHIONO et al.

By: Kenneth W. Fields
Kenneth W. Fields
Registration No. 52,430
Attorney for Applicants

KWF/jlg
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
December 13, 2004